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ABSTRACT

A project was conducted at Cumberland County College to determine (1) whether remediation of basic skills deficiencies has an effect on the successful completion of selected vocational courses; (2) the levels of basic skills competencies in reading, writing, and mathematics necessary for entry into selected vocational courses; and (3) the most appropriate course sequences for maximum retention and success of students in vocational programs. To accomplish these objectives, test scores on the New Jersey College Basic Skills Placement Test were obtained for full-time vocational education students entering the college in the fall 1980. Progress of those students through remedial and vocational courses was monitored by reviewing course completion rates and grades. In addition, grades for students who did and did not enroll in basic skills courses before enrolling in vocational courses were compared. The study found that grades were higher for students not needing remediation compared with those who did need remediation, pointing to the need for students requiring remediation to be identified and advised to enroll in appropriate course levels. The study also found that skill levels needed for various courses were higher than basic skills, emphasizing the need to enforce college policies calling for skill upgrading prior to entry into courses requiring a specific skill level. Finally, entry-level basic competencies for selected vocational courses were established and appropriate course sequences for remedial and vocational preparation were set. (Author/KC)

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Final Report

Entry Level Basic Skills for Vocational Education

1981-82

Cumberland County College
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(609)-691-8600

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CE038446

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PROJECT TITLE: Entry Level Basic Skills for Vocational Education

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ABSTRACT

DESCRIPTION OF PROJECT

(Use this sheet and no more than one other to type in single-spaced form a statement of project objectives, procedures to be followed, state and local priorities emphasized and the expected contribution of the project to vocational education.)

Entry Level Basic Skills for Vocational Education

The proposed project has four objectives: 1) to determine whether remediation of basic skills deficiencies has an effect on the successful completion of selected vocational courses; 2) to determine the levels of basic skills competencies in reading, writing, and mathematics necessary for entry into selected vocational courses; 3) to determine the most appropriate course sequences for maximum retention and success of students in vocational programs; and 4) to improve the completion and retention rates of vocational program majors who are deficient in the basic skills, with special attention to the analysis of data by sex for students in nontraditional programs.

In order to accomplish these objectives, test scores on the N.J. College Basic Skills Placement Test will be obtained for full-time vocational education students entering the College in fall 1980. Progress of these students through remedial and vocational courses will be monitored by reviewing course completion rates and grades. In addition, grades for two groups of students will be compared--those who completed basic skills courses before enrolling in vocational courses and those

who did not complete such courses. At the same time, entry level basic skill competencies for selected vocational courses will be established and appropriate course sequences for remedial and vocational preparation will be recommended.

Accomplishment of these objectives is related to priority three, concerning entry level skills and vocational program effectiveness. The proposed project will analyze the effects of completing needed basic skills remediation on student success in vocational education programs. Increases in the need for basic skills remediation and in vocational education program enrollments are common to most institutions providing vocational training. The expected outcomes of the proposed project are designed to be applicable to these types of institutions as they seek to improve both student access and student success in vocational education.

This project reported herein was conducted pursuant to a contract from the New Jersey Department of Education, Division of Vocational Education and Career Preparation. It was funded under Section 131 of Public Law 94-482.

Project Duration: July 1, 1981
Beginning Date

June 30, 1982
Ending Date

The Contractors undertaking this project were encouraged to express fully their judgments in professional and technical matters. Points of view or opinions do not, therefore, necessarily represent official funding agency positions or policies.

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Introduction

During the past year, vocational education funding has enabled Cumberland County College to conduct an in-depth examination of the relationship between basic skills and vocational education courses. Impetus for this examination was provided by the growing numbers of students at the College who enroll in vocational programs and by the increase in enrollment of students whose N.J. College Basic Skills Placement Test scores indicate a need for remediation. The funded research project reported on here allowed us to address several issues related to educating students both for career preparation and skill remediation. Although the project involved an examination of student and program data for Cumberland County College, the recommendations based on these data are applicable to other institutions and educational levels.

Problem

As enrollment in vocational programs increases, especially at open admissions institutions and in postsecondary vocational schools, the proportion of vocational program majors who need basic skills development will also increase. A broad statement of the problem thus becomes, what is the effect of deficiencies in the basic skills on student success in vocational education? Related to this problem statement are issues related to entry-level skills, effectiveness

of vocational programs, enrollment trends, and curriculum modifications. Stated in the form of problems to be examined, these issues could include examination of: 1) the extent to which students enrolled in vocational education need remediation 2) the proportion of students enrolled in vocational programs that receive remediation 3) the analysis of differences between grades of vocational majors who receive and do not receive basic skills remediation 4) the analysis of basic skill competency levels for vocational courses 5) the development of recommended course sequences for vocational program students who require remediation and skill development 6) the analysis of success and retention rates by sex for selected vocational programs and basic skills courses.

Effective course sequences in basic skills development are also important to a study of the relationaship of basic skills competencies and success in vocational education. When students with deficiencies in basic skill areas enroll at the institution, they are normally required to complete courses to remove the deficiencies before enrolling in courses which require college-level skills in the deficient areas. Such a sequencing of courses, however, may discourage students seeking immediate training in a vocational area. On the other hand, if students with deficient skills enroll in a vocational course without having first developed the necessary basic skill competencies, their chances for success in the program are lessened and their propensity to drop out is increased.

Objectives

The objectives of the project were as follows:

1. To determine whether remediation of basic skills deficiencies has an effect on the successful completion of selected vocational courses.
2. To determine the levels of basic skills competencies in reading, writing, and mathematics necessary for entry into selected vocational courses.
3. Based on the outcomes of objectives one and two, to determine the most appropriate course sequences for maximum retention and success of students in vocational programs.
4. To improve the completion and retention rates of vocational program majors who are deficient in the basic skills, with special attention to the analysis of data by sex for students in nontraditional programs.

Definition of Terms Used

1. Basic Skills - the skill areas include Elementary Algebra, English, Math Computation and Reading. Deficiencies in a skill area are determined by scores on the comparable sections of the N.J. College Basic Skills Placement Test administered to all first-time enrolled students.
2. Full-Time Students - students enrolled for 12 or more credit hours.
3. Remedial Courses - students found to need remediation in one or more skill areas are advised to take appropriate courses, depending on their assessed skill areas. The courses include: Basic English 093, Basic Math 095, Basic Reading 094, Developmental English 100, Developmental Reading 111, and Elementary Algebra-Math 100. These courses are referred to as remedial courses.

4. Vocational Students - students selecting one of the following programs as their curriculum major: Accounting, Agriculture/Ornamental Horticulture, Community Service, Data Processing, Education, Handicapped Program Assistant, Industrial Technology, Law Enforcement, Legal Technology, Marketing, Nursing, and Secretarial Science.

Background Information

In 1978 , the Board of Higher Education in New Jersey mandated the use of the New Jersey College Basic Skills Placement Test for first-time entering freshmen in public postsecondary institutions. At Cumberland County College, the Basic Skills Test has been administered to 1,000 students per year since 1978 . Scores on this test are used to determine placement in English and Math courses as well as Reading if scores indicate needed remediation. According to data compiled annually on students tested for fall entry, 75 percent of those tested require remediation in one or more skill areas. College policy dictates that students are required to enroll for any remediation in a needed area prior to enrolling in courses which require proficiency in the stated area. Course objectives for each of the skill remediation courses is attached as Appendix A .

Since 1980, Cumberland County College has evaluated the overall success of its Basic Studies program. Data indicate that while a few students do not enroll in the necessary courses within their first semester of attendance, nearly all do receive the needed remediation. In addition, the group who receives the necessary skill upgrading has a higher retention rate and a greater level of success in subsequent courses than does the group of students not enrolling for the required remediation. Evaluation studies also indicate the effectiveness of individual remedial courses; when pre-test and post-test scores are compared, the gains have been significant for nearly every area.

Despite research data on the overall effectiveness of the College's program for identifying students needing remediation and its program for upgrading skill deficiencies, there was need to look more closely at this data for specific program areas. Because Cumberland, along with other postsecondary institutions, continues to experience increased enrollments in vocational programs, the relationship of the Basic Studies program and selected vocational curricula needed review. Consequently, this project examined the extent to which vocational program majors require and receive remediation in English, Reading and Math.

Because the College requires skill remediation prior to enrollment in related entry-level courses, there also was a need to review the entry-level skills necessary for selected vocational courses. Based on readability analysis and assessment of computational requirements, recommended course sequences were needed to insure maximum success and retention of vocational students with skill deficiencies. This type of analysis would provide an in-depth rationale for the College policy requiring skill remediation at the outset.

A third area needing examination were the levels of skill deficiency and remediation by sex. At a time when the institution is striving to increase its enrollment of women in nontraditional vocational fields as well as to eliminate sex role stereotryping in these areas, it was important to analyze any differences in skill deficiencies by sex so that these deficiencies could be addressed for maximum student success.

Project Outcomes

Procedures Used

The first project objective was to determine whether remediation of basic skills deficiencies has an effect on the successful completion of selected vocational courses. In order to accomplish this objective, the student population to be studied was selected by first reviewing listings of students entering in fall 1979 and fall 1980. Only full-time students with vocational program majors who were tested with the N.J. College Basic Skills Placement Test (NJCBSPT) were identified for this population.

This group of students was then divided into two subgroups according to whether or not there was a need for skill remediation as determined by scores on the NJCBSPT. Registration lists and student transcripts were then reviewed to determine which students enrolled for the required courses during their first semester at the institution. Using this information, the group of students needing remediation was subdivided into those who completed the required remedial courses during the fall term and those who did not do so. As a result of these initial procedures, three groups were identified for the analysis; 1) full-time vocational students who did not need skill remediation; 2) full-time vocational students who needed skill remediation and completed it during their first semester, and; 3) full-time vocational students who needed skill remediation but did not complete it during their first semester.

For each group of students, the following data were compiled: 1) number of credit hours and 2) grade point average for each semester of attendance, beginning with initial entry. Since these students entered the institution at different times, either in fall 1979 or fall 1980, the number of semesters of data for each student varied; a standard of three semesters of data was used for each student. Students who did not enroll for at least three semesters were excluded from the analysis. A computer program was written to summarize the data by group, semester, and sex as shown in Table 1. The analysis of differences in mean credits and G.P.A.'s by groups and by sex is outlined in the next section.

Objective two for the project was to determine the levels of basic skills competencies in reading, writing, and mathematics necessary for entry into selected vocational courses. In order to determine these competency levels, three faculty members were asked to participate in the project. Two professors teach English and Reading and the other teaches Mathematics. The following tasks were accomplished during the project:

1. Reading textbooks were evaluated to determine the proficiency levels necessary for successful course completion.

2. The Fry Readability Formula was applied to vocational program textbooks to estimate the grade level of reading proficiency skills necessary for students success.

3. Three randomly selected 100-word passages were chosen from each of the following career program textbooks, and a specific skill level was determined:

    a. Accounting
    b. Aviation
    c. Contemporary Business
    d. Criminal Law and Law Enforcement
    e. Data Processing
    f. Industrial Technology
    g. Marketing
    h. Nursing

TABLE 1

Credit Hours and Grade Point Averages by Student Groups

	Semester 1		Semester 2		Semester 3		Overall	
	Credits	Average	Credits	Average	Credits	Average	Credits	Average
Group 1 Female	14	3.18	13	3.25	13	3.03	13	3.16
Group 1 Male	15	2.82	14	3.05	14	2.87	14	2.91
Group TOTAL	14	3.04	14	3.17	13	2.97	14	3.06
Group 2 Female	13	2.59	13	2.76	13	2.55	13	2.63
Group 2 Male	14	2.45	12	2.56	13	2.20	13	2.40
Group TOTAL	14	2.52	13	2.67	13	2.38	13	2.53
Group 3 Female	12	2.45	12	2.29	12	2.35	12	2.36
Group 3 Male	12	2.50	13	2.29	14	2.10	13	2.30
Group 3 TOTAL	12	2.47	12	2.29	13	2.25	12	2.34
Females	13	2.74	13	2.77	12	2.64	13	2.72
Males	13	2.59	13	2.63	14	2.39	13	2.54
Final TOTAL	13	2.68	13	2.71	13	2.53	13	2.64

The average number of syllables and the average number of sentences per 100 words were plotted on the Fry Graph and the grade level of the material was determined. (See Appendix B)

4. Each textbook was evaluated to determine the entrance competency skills necessary for vocational education majors to be successful in the area of mathematics. (See Appendix C)

The third project objective was to review results of the first two objectives in order to determine the most appropriate course sequences for maximum retention and success of students in vocational programs. A committee composed of Reading, Math, and English faculty met to review the data and to determine the recommended courses sequences outlined in the next section.

A final aim of the project was to make recommendations designed to improve the completion and retention rates of vocational program majors who are deficient in the basic skills, and to emphasize tactics which would assist in retaining students in non-traditional programs. These recommendations are discussed at the end of this report.

Findings

Objective One

Table 1 illustrates the mean Grade Point Averages and credit hours for the three groups of students identified as described above. When the Analysis of Variance test for significant differences among the group means was applied, it was found that the differences in mean G.P.A.'s were not statistically significant at the .05 level. (Differences are significant at the .10 level, however, among the three groups.) As expected, the actual differences in mean G.P.A.'s for the three groups are greatest between groups one, and groups two and three (students sho did not need remediation compared to students who needed remediation); the difference between the mean G.P.A.'s for groups two and three (students who needed and received remediation compared to students who did not enroll in the required courses) is less pronounced. There is no appreciable difference among the groups with regard to credit hours completed nor within the groups with respect to sex of student.

Objective Two

Results of the analyses conducted as part of objective two are found in Appendix B. Eleven textbooks used in eight different vocational program areas --Accounting, Aviation, Business Administration, Data Processing, Industrial Technology, Law Enforcement, Marketing, and Nursing were analyzed for reading grade levels. Ranges in reading levels were from 10th grade (Data Processing) to college-level (Aviation).

Textbooks for vocational courses in Accounting, Horticulture, Data Processing, Aviation, Industrial Technology, and Nursing were analyzed to determine the level of mathematical skill necessary to each. Specific results, indicating the overall need for computational math skills as well as some basic Algebra, are provided in Appendix C.

Interpretation of Findings

While differences in the mean G.P.A.'s for the groups studies were not found to be statistically significant, G.P.A.'s and credit hours earned were higher for vocational students not needing remediation compared with those who did need remediation. These differences point up the need for ensuring that vocational students requiring skills upgrading be identified and advised to enroll in the appropriate course levels.

Differences in the G.P.A.'s and credit hours could also be analyzed by grouping students into the specific skill areas. The results may have been more meaningful statistically if the three groups of students' G.P.A.'s had been analyzed separately for Reading, for English, and for Math. Results also may have been affected by such other factors as: the courses these students were taking in conjunction with remedial courses and the various support services, such as counseling or tutoring, the students had utilized. Investigation of these and other factors, while beyond the scope of this project would be worthwhile.

Analysis of the textbooks used in selected vocational courses emphasizes the need to enforce College policies calling for skill upgrading prior to entry into courses requiring the specific skill level. Because these texts require a relatively

high reading level, the preliminary enrollment of vocational students in the necessary reading courses should be monitored closely. Since the texts also require some Algebra as well as good computational skills, it is necessary to ensure prior enrollment, where necessary, in appropriate remedial math courses.

Results of the analyses performed to meet objectives one and two of the project were used to outline appropriate course sequences as defined in objective three of the project. These suggested course sequences were needed for two reasons: to ensure that vocational program students needing remediation receive it early in their program for maximum success in the major field, and to allow these students to obtain job-oriented skills training together with basic skills upgrading whenever possible. Retention of these students appears to depend on early introduction of both types of courses.

The relationship among these three project objectives is clear. Analysis of student G.P.A.'s indicates a difference (though not statistically significant) in overall achievement of vocational students who do not need remediation compared with those who do need remediation. Textbook analysis indicated that all vocational course material requires a solid foundation in both Reading and Math skills for maximum student achievement. Hence, the course sequences outlined below call for preliminary basic and developmental work, where necessary, in the three skill areas of Reading, English, and Mathematics. These sequences were designed by the Project Committee for the vocational programs reviewed; they are recommended for all vocational program students

who require remediation based on their New Jersey College Basic Skills Placement Test results:

Accounting (Textbook - 14th grade level)

Basic Reading 094
Basic Math 095
Basic English 093
— Core of Basic Studies Courses

Developmental Reading 111
Introduction to College Math 100
Fundamentals of English 100
Introduction to Social Science 100
— Core of Developmental Courses

Aviation (Textbooks - 12th grade level and college level)

Basic Reading 094
Basic Math 095
Basic English 093
— Core of Basic Studies Courses

Developmental Reading 111
Fundamentals of English 100
Introduction to College Math 100
Introcution to Physical Science 100
— Core of Developmental Courses

Data Processing

Basic Reading 094
Basic Math 095
Basic English 093
— Core of Basic Studies Courses

Developmental Reading 111
Fundamentals of English 100
Contemporary Mathematics 109
— Core of Developmental Courses

Industrial Technology

Basic Reading 094
Basic Math 095
Basic English 093
— Core of Basic Studies Courses

Developmental Reading 111
Introduction to College Math 100
(followed by Math 101)
Fundamentals of English 100
— Core of Developmental Courses

Nursing

Basic Reading 094
Basic Math 095 — Core of Basic Studies Courses
Basic English 093

Developmental Reading 111
Fundamentals of English 100
Introduction to College Math 100 — Core of Developmental Courses
Physical Science 105

Results of these three project objectives will be used by the institution to improve the completion and retention rates of vocational program majors who are deficient in the basic skills. The entry-level reading and math skills required for the selected vocational courses under study have been reviewed by all academic Division Chairmen and will be subject to further study and recommendations as curricula are reviewed.

Dissemination Activities Planned and/or Implemented

In addition to the Project Committee meetings involving faculty who teach both skill area and vocational courses, and review of the project results by all Division Chairmen, subsequent review and discussion of these results are planned. In conjunction with a College-wide review of curricula, these project results will be utilized as a model for program and textbook analysis in other program areas.

Another outcome of this project has been a 1982-83 proposed project to prepare basic and developmental instructional packages that utilize vocational program content as a basis for skill upgrading. This project is a continuation of the analysis used in this project to recommend appropriate course sequences.

As a part of this project, dissemination activities also have included preparation of a brochure to publicize the instructional support materials available through the College's Learning Lab for career programs. This brochure will be distributed to faculty, staff and students to increase the utilization of such materials by vocational program students. A sample listing of the materials publicized is shown below:

Instructional Support Materials for Selected Career Areas *

Career Program Reference Books

1. Acccunting
2. Agriculture/Horticulture
3. Aviation
4. Community Service
5. Computer Science
6. Data Processing
7. Drafting
8. Education
9. Engineering
10. Industrial Technology
11. Law Enforcement
12. Legal Technology
13. Marketing
14. Nursing

Instructional Kits

SVE Life Skills Materials: Everyday Math Tables, Graphs, and Scales
Science Research Associates Thinklab
Basic Business Mathematics
McGraw Hill Basic Skills System
Cambridge Skill Power Series
Comprehension Skills Workbook and Tapes
Medical Terminology
Probability and Statistics
Introduction to Engineering
Academic Study Skills
Shorthand Tapes for Transcription
Reading Laboratory

Self-Improvement and Study Skills

How to Survive in College - Tapes and Workbooks
Reading and Study Skills
Gaining Word Power

*Selected materials available in the College's Learning Lab

Strategies to Eliminate Sex Bias and Sex Role Stereotyping

In order to meet this objective, at the outset of the project vocational programs for review were selected to provide an emphasis on nontraditional careers. For example, analysis of textbooks was conducted for the following programs: Accounting, Horticulture, Data Processing, Aviation, Industrial Technology, and Nursing. Course sequencing analysis also was designed to maximize the success of students in nontraditional programs and provided recommendations for the following programs: Accounting, Aviation, Data Processing, Industrial Technology, and Nursing. Data on enrollment in these programs by sex is shown in Table 2.

Similarly, data analysis, as shown in Table 1, was conducted by sex as well as grouped according to need for remedial courses. A review of the data by sex indicated that while there were slight differences in the mean G.P.A.'s by sex for all groups, these differences were not statistically significant. To date, basic skills data had not been analyzed by sex for any previous college program evaluation; this analysis may indicate a need for further study to discover any possible differences which may affect student achievement and retention.

Overall project outcomes will be utilized by the vocational program department heads as they continue to emphasize recruitment, enrollment, and retention of nontraditional students.

Table 2

Headcount Enrollment By Sex in Selected Vocational Programs
Fall 1981

Program	Female	Male	Total
Accounting	68	37	115
Data Processing	72	59	131
Industrial Technology	5	128	133
Law Enforcement	10	28	38
Marketing	25	20	45
Nursing	101	7	108
Secretarial Science	84	-	84

Summary

Conclusions

As a result of placement testing with the New Jersey College Basic Skills Placement Test, upwards of 75 percent of entering students each fall are found to need skill upgrading in one or more areas, including Reading, English, Math Computation, and Elementary Algebra. The College's Basic Studies Program and its associated support services have grown to accommodate this population and now include Basic Reading, Developmental Reading, Basic English, Fundamentals of English, Math Computation, and Introduction to College Math, as well as Introduction to Social Science, Introduction to Physical Science, and College Orientation courses.

Entry-level criteria as well as outcomes have been specifically developed for each skill area course as shown in Appendix A. All aspects of the College's Basic Studies Program have been evaluated annually for the past three years, including analysis of the number of students needing remediation, and comparisons of course grades, G.P.A.'s, and credit hours for these groups of students. In addition, a peer tutoring program has been developed, counseling support is available, and several workshops have been conducted on such topics as test-taking strategies and study skills.

Because of the increase in enrollment of vocational program students as well as the increase in the proportion of students found to need skill remediation, it was necessary to expand both

the review of entry-level skills and the analysis of entering students' skills. This project accomplished both purposes. Analysis of entry-level skills in Reading and Math was extended to explore the initial skills necessary for selected vocational courses. Comparative data for students needing and not needing remediation was analyzed specifically for vocational students. In addition, the project outlined recommended courses and provided a basis for continued institutional review and development of strategies to maximize vocational students' success and retention in nontraditional career areas.

This study found that the Reading and Mathematical skills necessary in several general vocational courses were substantially beyond basic skill levels. Such a finding further substantiates the need to ensure that vocational program students with below college-level skills complete remedial courses before enrolling in vocational courses requiring proficiency in the specific skill area. A suggested course sequence in selected programs for these students was outlined as one objective of the project. Data analysis for the project confirms this finding that skill-deficient students be required to enroll in specified remedial courses prior to entry in the related vocational courses.

Recommendations

Following are the recommendations based on project findings:

1. Entry-level Math and Reading skills should be assessed for all vocational courses, with results

reviewed by all faculty and used as a basis for student advisement where appropriate.

2. Data similar to that analyzed for this project should be collected and reviewed periodically to ensure that vocational program students who need remediation are enrolling in the necessary courses.

3. Vocational program student achievement and retention data similar to that collected for this project should be collected annually to monitor student progress through the programs and to compare progress of students needing and not needing remediation. Data also should be collected and analyzed by sex to determine any differences in achievement in nontraditional programs.

4. Instructional support materials for basic and developmental courses should have a career-related content. This would increase the exposure of vocational program students needing remediation to career-related concepts while taking the needed remedial courses prior to enrollment in the vocational program courses.

APPENDIX A

E094 **BASIC READING** **Miss Kewish**

Course Description: E094 helps the student improve and develop reading and study skills with emphasis on such areas as vocabulary improvement, concentration, retention, note-taking, comprehension. The goal is to provide the student with sufficient background so that he can easily transfer into E111 with its focus on reading critically.

Rationale: Reading is thinking. A good reader knows how to concentrate and attacks reading with adequate mechanical skills, vocabulary. A good reader remembers what he reads by learning how to apply or associate what he reads so that memory is possible. A good reader thinks critically and creatively about the reading as a result of or in the process of associating and applying.

Modes of Instruction: The focus in this course is on student participation in developing reading and study skills, with as much individualized attention and instruction as possible. Instructional procedure varies from lecture and discussion periods, small group discussion to individuals working independently on various skills, exercises, with individual conferences scheduled on a regular basis.

Entrance & Exit Criteria: Placement is based on appropriate score on reading placement/diagnostic examination - below 9th grade reading level on Nelson-Denny Reading Test (as well as NJBSPT).

All of the following must be satisfied as exit requirements: complete 1 outside reading with 1 written or oral book report; complete all required assignments, including exercises and quizzes; receive a grade level reading score of 9th grade or better on the Nelson-Denny post-test (or equivalent test), to be taken at the end of the semester.

General Course Goals:
1. To learn effective study skills
2. To learn to read for comprehension
3. To develop a positive attitude toward learning.

Cumberland County College
E093

Mrs. T. Brett

Basic English

Required Textbook:

Matthew and Fergenson, All In One

Course Description:

Basic English provides the student with instruction in those areas essential to the writing of logically structured sentences. Emphasis is placed on the parts of speech and their grammatical functions, punctuation, mechanics and word usage. This course prepares the student for English 100.

Course Objectives:

The student will be able to construct various sentence types, use proper grammar and punctuation and recognize the parts of speech.

Outline:

Unit 1 Subjects and Verbs
Unit 2 Clauses and Phrases
Unit 3 The Simple Sentence
Unit 4 The Compound Sentence (Coordination)
Unit 5 The Complex Sentence (Subordination)
Unit 6 Fragments
Unti 7 Comma Splices and Run Ons
Unit 8 Agreement of Subject and Verb
Unit 9 Pronouns and their Antecedents
Unit 10 Complete Study of Verbs
Unit 11 Adjectives and Adverbs
Unit 12 Misplaced Modifiers
Unit 13 Apostrophe
Unit 14 Commas, Colons, Semicolons

Course Grading:

1. Mastery tests
2. Mid-term Exam
3. Final Exam
4. Oral participation
5. Class assignments

Entrance & Exit Criteria:

Placement is based on score from New Jersey College Basic Skills Placement Test . In order to meet the requirements for English 100, you must have a C average in this course.

Mrs. Sandra Evans

BASIC MATHEMATICS 095

Required Texts: Computational Skills for College Students
by Calman Goozner
Basic Mathematics
by Richard I. Steinhoff

Attendance: Students will meet with the instructor the first session and agree on their individual schedules. Each student will schedule a minimum of three hours per week; any absences that occur must be made up at a time agreed upon by the instructor and the student.

Class Procedure: The Basic Computational Math course is organized for individualized instruction. The instructor and the math tutors in the Learning Center are available to students when help is needed. There will be very little lecture type instruction because of the open lab facilities and because of the design of math course.

Grading: Each module or unit of work will be graded separately with a percentage grade. Mastery Learning of 80% or higher must be achieved on each module before the student progresses to the next unit of work.

The final grade will be based upon:

1/3 Mid-Term Exam
1/3 Average of Module Grades
1/3 Final Exam

Spring Semester 1982

Sandra W. Evans, Director
Learning Lab

E111 **DEVELOPMENTAL READING** **Miss Kewish**

Course Description: The purpose of E111 is to help the student improve and develop general proficiency, accuracy of comprehension, and flexibility in reading, with emphasis on reading skills and assistance with study skills.

Rationale: Good reading skills are essential for an adult to function successfully in career and personal life. By completing a wide range of activities, the Developmental Reading students will practice learning skills enough to make them habits. When the student develops basic reading and study skills, he will be on his way to becoming an effective learner, a person able to take on and master any learning challenge.

Modes of Instruction:
(1) Lecture/discussion periods
(2) Small group discussion
(3) Independent study
(4) Individual conferences

Entrance & Exit Criteria: Placement is based on appropriate score on reading placement/diagnostic examination - at or above 9th grade level in reading but below 11th grade reading level on Nelson-Denny Reading Test (as well as NJBSPT).

All of the following must be satisfied as exit requirements: complete 2 outside readings, with 2 written book reviews; complete all required assignments, including exercises and quizzes; receive a grade level reading score of 11th grade or better on the Nelson-Denny post-test (or equivalent test), to be taken at the end of the semester.

The general aim of this course is to help the student develop his reading skills to those levels which will enable him to read successfully (quickly and effectively) in all areas:

1. Course work
2. Job assignments
3. Personal reading

Summer - 1982 **ENGLISH FUNDAMENTALS** Miss Kewish

Objectives: The focus in this course is basically two-fold. The primary purpose is to teach the student how to write a deductive paragraph. Here the emphasis is on the following aspects of writing a paragraph: the steps in pre-writing, the formation of the topic sentence, coherence and the structure of the paragraph, the steps in post-writing, andthe various rhetorical approaches to the development of the paragraph. The secondary purpose is to review the fundamentals of English - sentence elements, sentence structure, punctuation, the use of the right word - that the student must know and apply if he is to write intelligently.

The work in this course includes the following:

daily reading assignments
class participation
exercises, tests over material covered in class
a minimum of 12 paragraph assignments

Text: Starting Points: A Guide to Basic Writing Skills. Richard Swartz.

Attendance Policy: A maximum of 6 hours of absence is permitted. After the student reaches 6 hours of absence, he may be dropped from the course. The student is responsible for assignments made and material discussed in class during his absence.

Final Evaluation: Evaluation is based primarily on the writing assignments, with the last third more heavily weighted to reflect improvement. The tests, exercises comprise approximately $\frac{1}{4}$ of the grade; the several written paragraph assignments comprise approximately 3/4 of the grade. Specifically, in order to pass E100, the student will have to achieve an average grade of C or better on paragraphs written the final half of the semester.

CUMBERLAND COUNTY COLLEGE

MATH 100

TEXT: Elementary Algebra

AUTHOR: Vivian Shaw Groza

PUBLISHER: W. B. Saunders Company

PREREQUISITE: Knowledge of Arithmetic

OBJECTIVE: This course is intended to provide a background in basic algebra for those students whose algebraic background is weak or non-existent.

CLASS PROCEDURES: Students are expected to attend all classes. You will be permitted six class hours absence. Any absences after that may cause the student to be dropped from the course. When a student is late for class three times, 5% will be deducted from their final average. The pace set by the instructor will be such that the minimum material required in the course will be covered. A student may feel free to work at a faster pace if desired.

TESTING: There will be six tests during the semester. The tests will be equally weighed and the grade determined according to the following scale.

90% - 100% - A
80% - 89% - B
70% - 79% - C
60% - 69% - D
0% - 59% - F

A CUMULATIVE FINAL EXAM WILL ALSO BE REQUIRED

COURSE CONTENT:
Basic Operations
Sets
Axioms
Integers
Linear Equations
OPerations on polynomials
Factoring
Algebraic Fractions
Fractional Equations
Graphing
Linear Systems
Quadratic Equations

Appendix B

VOCATIONAL EDUCATION/BASIC SKILLS RESEARCH GRANT PROJECT

COURSE TITLE: Nursing 105

BOOK TITLE: Psychiatric Nursing
Wilson, Kneisl

DATE: June 1982

PROFESSOR: Nursing Staff

The readability of the above named textbook has been identified as the 11th gr. level.

Notes & Comments:

The entrance level of mathematical ability has been identified as requiring the following courses:

N/A

Sandee Evans
April 30, 1982

VOCATIONAL EDUCATION/BASIC SKILLS RESEARCH GRANT PROJECT

COURSE TITLE: Nursing 105

BOOK TITLE: Fundamentals of Nursing Concepts and Procedures

DATE: June 1982

PROFESSOR: Nursing Staff

The readability of the above named textbook has been identified as the 11th gr. level.

Notes & Comments:

The entrance level of mathematical ability has been identified as requiring the following courses:

N/A

Sandee Evans
April 30, 1982

VOCATIONAL EDUCATION/BASIC SKILLS RESEARCH GRANT PROJECT

COURSE TITLE: Accounting Principles 103 & 104

BOOK TITLE: Accounting Principles, 13th edition
Fess/Niswonger

DATE: June 1982

PROFESSOR: Mr. James McMillan
Mr. John DeYoung

The readability of the above named textbook has been identified as the 16 -- 17+ level.

Notes & Comments:

1st	p. 122	158	4.3	
2nd	p. 418	187	4.0	
3rd	p. 682	220	2.9	
		565	11.2	Readability --17+

1st	p. 105	166	4.6
2nd	p. 455	183	6.2
3rd	p. 817	186	5.0
		535	15.8

Readability 16

The entrance level of mathematical ability has been identified as requiring the following courses:

See: Attached report.

Sandee Evans
April 30, 1982

VOCATIONAL EDUCATION/BASIC SKILLS RESEARCH GRANT PROJECT

COURSE TITLE: Data Processing Concepts (Data Processing 101)

BOOK TITLE: Information Processing

DATE: Marilyn Bohl
June 1982

PROFESSOR: Mrs. Peggy Morgan

The readability of the above named textbook has been identified as the 10th gr. level.

Notes & Comments:

The entrance level of mathematical ability has been identified as requiring the following courses:

See: Attached Report

Sandee Evans
April 30, 1982

VOCATIONAL EDUCATION/BASIC SKILLS RESEARCH GRANT PROJECT

COURSE TITLE: Criminal Law (Public Administration 104)

BOOK TITLE: Basic Criminal Law

DATE: George Dix, Michael Sharlot
June 1982

PROFESSOR: Mr. Richard Fitzgerald

The readability of the above named textbook has been identified as the 14th gr. level.

			Syll.	Sent.
Notes & Comments:	1st	p. 83	156	5.0
	2nd	p. 277	163	2.7
	3rd	p. 527	174	2.2
Average 164 3.3			493	9.9

The entrance level of mathematical ability has been identified as requiring the following courses:

_____

_____

Sandee Evans
April 30, 1982

VOCATIONAL EDUCATION/BASIC SKILLS RESEARCH GRANT PROJECT

COURSE TITLE: Introduction to Marketing 207

BOOK TITLE: Basic Marketing
Jerome McCarthy

DATE: June 1982

PROFESSOR: Mr. John DeYoung

The readability of the above named textbook has been identified as the 12th gr. level.

Notes & Comments:			Syll.	Sent.
	1st	p. 120	156	5.2
	2nd	p. 360	159	4.5
	3rd	p. 642	174	5.7
			489	15.4

Average 163 5.1

The entrance level of mathematical ability has been identified as requiring the following courses:

See: Attached Report.

Sandee Evans
April 30, 1982

VOCATIONAL EDUCATION/BASIC SKILLS RESEARCH GRANT PROJECT

COURSE TITLE: Industrial Technology

BOOK TITLE: Machine Tools and Machining Practices
White, Neely, Kibbe, Meyer

DATE: June 1982

PROFESSOR: Mr. William Felmey

The readability of the above named textbook has been identified as the 11th gr. level.

			Syll.	Sent.
Notes & Comments:	1st	p. 83	155	4.7
	2nd	p. 306	174	6.1
	3rd	p. 593	147	4.8
			476	
Average			158	5.2

The entrance level of mathematical ability has been identified as requiring the following courses:

See: Attached report.

Sandee Evans
April 30, 1982

VOCATIONAL EDUCATION/BASIC SKILLS RESEARCH GRANT PROJECT

COURSE TITLE: Introduction to Business (Business 115)

BOOK TITLE: Contemporary Business
Louis Boone, David Kurtz

DATE: June 1982

PROFESSOR: Mr. Clair Miller

The readability of the above named textbook has been identified as the 15th gr. level.

Notes & Comments:

1st	p. 51	4.4	178
2nd	p. 259	5.0	160
3rd	p. 531	4.5	182
		13.9	520

Average 4.6 173

The entrance level of mathematical ability has been identified as requiring the following courses:

See: Attached Report

Sandee Evans
April 30, 1982

VOCATIONAL EDUCATION/BASIC SKILLS RESEARCH GRANT PROJECT

COURSE TITLE: **Aviation**

BOOK TITLE: **Aircraft Powerplants**
Bent, McKinley

DATE: **June 1982**

PROFESSOR: **Joseph Blasenstein**

The readability of the above named textbook has been identified as the **12th gr.** level.

Notes & Comments:

The entrance level of mathematical ability has been identified as requiring the following courses:

See Attached Report

Sandee Evans
April 30, 1982

VOCATIONAL EDUCATION/BASIC SKILLS RESEARCH GRANT PROJECT

COURSE TITLE: Aviation

BOOK TITLE: Airframe & Powerplant Mechanics (Handbook)

DATE: June 1982

PROFESSOR: Joseph Blasenstein

The readability of the above named textbook has been identified as the College level.

Notes & Comments:

See Attached Report

Sandee Evans
April 30, 1982

VOCATIONAL EDUCATION/BASIC SKILLS RESEARCH GRANT PROJECT

COURSE TITLE: Nursing 106

BOOK TITLE: Obstertric Nursing
Olds, London, Ladwig, Davidson

DATE: June 1982

PROFESSOR: Nursing Staff

The readability of the above named textbook has been identified as the 12 gr. level.

Notes & Comments:

		Syll.	Sent.
1st.	p. 147	175	4.2
2nd.	p. 501	149	5.5
3rd.	p. 757	171	6.5
		495	16.2

Average 165 5.4

The entrance level of mathematical ability has been identified as requiring the following courses:

N/A

Sandee Evans
April 30, 1982

Appendix C

To: Sandra Evans

From: Dan Cherwien

Re: Entry Level Requirements

Date: May 5, 1982

As per your request, I have attempted to list the essential entry level skills in mathematics needed in the courses for which I had texts.

I Course: Accounting

Text: Fess and Niswonger, Accounting Principles

Topics: Basic Operations
- Whole Numbers
- Decimals
- Fractions

Percents
Ratio and Proportion
Simple Equations and Inequalities
Use of Formulas

Pre-requisite Course:
1. Computational Mathematics
2. Knowledge of Basic Algebra would be useful

II Course: Horticulture

Text: Edmond et al. Fundamentals of Horticulture

Topics: Basic Operations
- Whole Numbers
- Decimals
- Fractions

Percents
Read Graphs
Scientific Notation
Basic Equations
Formulas
Area and Volume
Ratio and Proportion
Metric System

Pre-Requisite Course:
1. Computational Mathematics
2. Knowledge of Basic Algebra would be useful

III Course: Nursing

Text: Olsen et al. Medical Dosage Calculations

Topics: Basic Operations
Whole Numbers
Decimals
Fractions
Percents
Ratio and Proportion
Systems of Measurment
Conversions
Basic Equations

Pre-Requisite Course:
1. Computational Mathematics
2. Minimum amount of Algebra necessary

IV Course: Data Processing

Text: Bohl. Information Processing

Topics: Basic Operations
Whole Numbers
Decimals
Fractions
Reading Graphs
Place Value
Scientific Notation
Powers
Signed Numbers
Binary, Octal, and Hexadecimal Systems are covered in course.

Pre-Requisite Course:
1. Computational Mathematics
2. Principles of Mathematics (Math 109) might be helpful

V Course: Aviation Maintenance

A. Text: F.A.A. Airframe and Powerplant Mechanics

Topics: Basic Operations
Whole Numbers
Decimals
Fractions
Reading Graphs
Units of Measurement
Formulas
Basic Algebra

Pre-Requisite Course:
1. Computational Mathematics
2. Knowledge of Basic Algebra would be useful

B. Text: Bent and McKinley. Aircraft Power Plants

Topics: Essentially the same as part A

Pre-Requisite Course:
Same as part A

VI Course: Industrial Technology

Text: White et al. Machine Tools and Machining Practice

Topics: Basic Operations
- Whole Numbers
- Decimals
- Fractions

Powers and Roots
Formulas
Basic Geometry
Units of Measure
Right Angle Trigonometry

Pre-Requisite Course:
1. Computational Mathematics
2. College Algebra

Co-Requisite Course:
1. College Trigonometry